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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/714,358 | 11/14/2003 | Kentaro Takakura | 10873.1344US01 | 3325 |
| 53148 | 7590 | 10/16/2007 | EXAMINER | |
| HAMRE, SCHUMANN, MUELLER & LARSON P.C. P.O. BOX 2902-0902 MINNEAPOLIS, MN 55402 | | | BLOOM, NATHAN J | |
| | | ART UNIT | | PAPER NUMBER |
| | | 2624 | | |
| | | MAIL DATE | DELIVERY MODE | |
| | | 10/16/2007 | PAPER | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | |
|------------------------------|-----------------|-----------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/714,358 | TAKAKURA ET AL. |
| Examiner | Art Unit | |
| Nathan Bloom | 2624 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 23 July 2007.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-3, 19 and 30 is/are pending in the application:
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-3, 19 and 30 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION.

Applicants' response to the last Office Action, filed on July 23rd, 2007 has been entered and made of record.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 19, and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Hirano (PCT WO994/44368, Note: Used English language equivalent US 6961474 for rejection).

Note: Neither the art being used nor the type of rejection being made has been changed.

Instant claim 1: An encoding device performing run-length encoding and variable-length encoding, comprising:

an input portion for sequentially inputting one block of m by n data [*Fig. 2-3 and 9(b) block of m by n data, Fig. 13 input goes into memory bank and further input comes from this bank to the Data counter portion (item 203), lines 14-34 of column 20*];

a comparing and determining portion for determining for each individual data unit input by the input portion whether its value is 0 (zero) [*203 of Fig. 13 determines zero portion, lines 35-47 of column 20*];

an information register for storing determination result information on the results of the determination by the comparing and determining portion [204a-b of Fig. 13 lines 35-47 of column 20];

a data buffer for storing data input by the input portion [Items 204a&b store the valid data coefficients received from the input portion of Fig. 13, lines 13-29 of column 20];

a read control portion for controlling selective reading of the data from the data buffer in such a manner that only input data having a value that is not 0 (zero) are read out based on the determination result information stored in the information register [204a-b and 205 of Fig. 13 and Fig. 14 a-b, lines 35-63 of column 20];

a run-length encoding portion for performing run-length encoding using data selectively read from the data buffer and the determination result information stored in the information register [Hirano discloses in Figures 13 and 14 and in the written description provided in columns 20-23 the run length encoding of the input data and determination result information that is stored in the data buffer/information register, wherein the data selected from 204a&b is the run-length and valid data coefficients and the selector alternately selects this data thus producing (see Figure 14 for a flow diagram and columns 20-23 for a written description of this process) run length encoded data.] ; and

a variable-length encoding portion for performing variable-length encoding using as a data pair the input data the data that have been read selectively form the data buffer and the number of consecutive data having a value of 0 (zero) that is obtained by the run-length encoding portion [206 of Figure 13, lines 48-63 of column 20, also see Fig 14 which depicts the run-length

(consecutive data having a value of 0) and the valid data coefficients being supplied after the selector unit has selectively read the data from the buffers (Fig. 14 part c is the output)].

Instant claim 2: The encoding device according to claim 1, wherein the determination result information is stored in the information register in a zig-zag scan order with respect to the arrangement of the data in the block [Fig. 9b, lines 13-42. *The use of a zig-zag scan order for DCT coefficients was known to one of ordinary skill in the art at the time of the invention.*].

Instant claim 3: The encoding device according to claim 1, further comprising: a write control portion for controlling writing of the data to the data buffer; wherein the write control portion permits writing to the data buffer only if the comparing and determining portion has determined that the value of the data is not 0 (zero). [203 of Fig. 13 only writes input data to the buffer (204 a and b) if it is non-zero input data.]

Instant claim 30: The encoding device according to claim 1, wherein the input portion inputs the data into the computing and determining portion simultaneously or before the timing for inputting the data into the data buffer. [See Fig. 13 of Hirano, which depicts the "Determining and Comparing portion" as item 203 and the input buffer as 204a and 204b. As can be seen from the flow of this diagram the input is received by the "Determining and Comparing portion" prior to being stored in the data buffer.]

Response to Arguments

3. Applicant's arguments filed on July 23rd, 2007 have been fully considered but they are not persuasive.

Applicant argues that *Hirano '474 does not teach or suggest that "only data having a value that is not 0 (zero) are selectively read out ... from the data buffer" as required by claims 1 and 19.*

In the rejection of instant claims 1 and 19 Examiner pointed to figures 13 and 14 and lines 13-47 of column 20 wherein it is shown that only the "Valid Data Coefficients" (see figure 14) D0, D1, D2,.. etc from the set of input DCT coefficients are selected from the input buffer (204a and b), and wherein the other values (run length) are created values that are not zero values from the set of input coefficients.

Applicant also argues that *Hirano '474 does not teach or suggest a read control portion of claim 1.* Item 205 of Fig. 13 alternately selects (reads) the non-zero input data from the input buffers (FIFO 204a&b) and thus the read control as is claimed by applicant in claim 1 of the current application is performed by the selector taught by Hirano.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Fukuda (US 7142720 and US 5416854) – teaches parallel zero determination and input buffer use.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan Bloom whose telephone number is 571-272-9321. The examiner can normally be reached on Monday through Friday from 8:30 am to 5:00 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed, can be reached on 571-272-7413. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR

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system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NB



Samir Ahmed's handwritten signature is written in cursive ink. It consists of a stylized 'S' followed by 'am' and 'ir'.

SAMIR AHMED
PRIMARY EXAMINER